

LA-LR--98-2022

Standard Data Report

1997 Annual Report on Waste
Generation and Waste Minimization
Progress
as Required by DOE Order 5400.1

Los Alamos National Laboratory
State: NM
Operations Office: AL

Prepared for:
DOE

Prepared by:
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MASTER *YOT*

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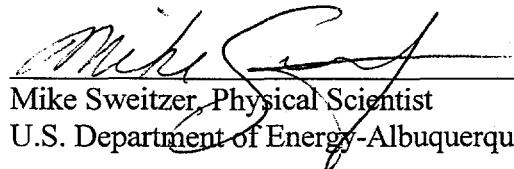
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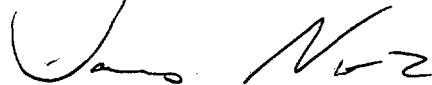
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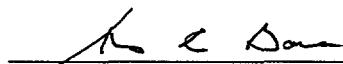
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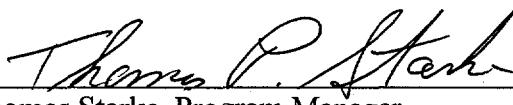
4/24/98

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Thomas Starke, Program Manager
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General Site Information

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CSOs:

Lead CSO - DP
Additional CSOs - EE,EM,ER,FE,NE,RW

General Site Mission

Los Alamos National Laboratory's original mission to design, develop, and test nuclear weapons has broadened and evolved as technologies, national priorities, and the world community have changed. Today the vision of the Los Alamos National Laboratory is that of a national laboratory in which science serves society to enhance global security, preserve the earth, and improve the quality of life through innovations in science and technology and through the management of its business and operations at a world class level.

The Laboratory's central mission of Reducing the Global Nuclear Danger supports core competencies that enable the Laboratory to contribute to defense, civilian, and industrial needs. In turn, the intellectual challenges of civilian and industrial problems strengthen and help support the core competencies required for the national security mission. Our ability to do great science underpins all of our applied work. There are five core competencies which support this mission: 1)Stockpile Stewardship ensures that the U.S. has safe, secure and reliable nuclear weapons; 2)Stockpile Management provides capabilities ranging from dismantling to remanufacturing of the enduring stockpile; 3)Nuclear Materials Management ensures the availability and safe disposition of plutonium, highly enriched uranium, and tritium; 4)Nonproliferation and Counterproliferation

help to deter, detect, and respond to the proliferation of weapons of mass destruction; and 5) Environmental Stewardship provides for the remediation and reduction of wastes from the nuclear weapons complex.

Site Generation Data**Routine * vs. Cleanup/Stabilization ** Waste**

Waste		Routine	Cleanup/ Stabilization	Total
High Level Waste	(L)	0 m3	0 m3	0.00 m3
	(S)	0 m3	0 m3	0.00 m3
Transuranic Waste (TRU)	(L)	0.00 m3	0.00 m3	0.00 m3
	(S)	87.39 m3	2.29 m3	89.68 m3
Mixed-TRU	(L)	0.00 m3	0.00 m3	0.00 m3
	(S)	6.45 m3	6.03 m3	12.48 m3
Low-Level Waste (LLW)	(L)	13.89 m3	46.81 m3	60.70 m3
	(S)	517.61 m3	2266.98 m3	2784.59 m3
Mixed-LLW	(L)	1.12 m3	15.72 m3	16.84 m3
	(S)	4.68 m3	34.16 m3	38.84 m3
RCRA Regulated		38.65 mt	181.67 mt	220.32 mt
State Regulated		83.43 mt	2785.42 mt	2868.85 mt
TSCA Regulated		0.00 mt	290.11 mt	290.11 mt
Mixed-TSCA		0.00 mt	98.97 mt	98.97 mt
Sanitary		2239.16 mt	0.00 mt	2239.16 mt

Total waste generated at the site during calendar year 1997, which is a sum of all wastes generated regardless of source or activity

*** Routine waste is defined as waste produced from any type of production operation, analytical and/or R&D laboratory operations; T/S/D operations, "work for others", or any other periodic and recurring work that is considered on-going in nature.**

**** Cleanup/Stabilization waste is defined as one-time operations waste: Wastes produced from environmental restoration program activities, including primary and secondary wastes associated with retrieval and remediation operations; "legacy wastes"; and D&D/Transition operations.**

Site-Wide Recycling Activities**Paper Products**

Office and Mixed Paper	248.15 mt
Corrugated cardboard	40.19 mt
Phone books	0.00 mt
Newspapers/Magazines	0.16 mt
Aluminum cans	0.00 mt
Glass	0.00 mt
Plastic	0.00 mt
Styrofoam	0.00 mt

Scrap metals

Stainless steel	6.46 mt
Copper	0.54 mt
Iron	42.54 mt
Aluminum	5.15 mt
Lead	156.26 mt
Zinc	0.00 mt
Other: (see discussion below)	3033.64 mt

Precious metals

Silver	0.00 mt
Gold	0.00 mt
Platinum	0.00 mt
Other: (see discussion below)	0.00 mt

Toner cartridges	0.00 mt
Batteries	0.00 mt
Engine oils	28.13 mt
Tires	0.55 mt
Food waste	0.00 mt
Concrete	0.00 mt
Wood (chips, compost)	118.17 mt
Other: (see discussion below)	8245.56 mt

Percentage of Sanitary Waste Recycled:

$$(\text{quantity recycled}) / (\text{waste disposed} + \text{waste recycled}) = 84.19 \%$$

Other materials recycled include: fluorescent bulbs, chemicals, construction debris, excess equipment, office furniture, rubble, waste containers, and water.

CSO Specific Information**CSO: DP Waste Generation.**

Waste Type	Routine	Cleanup Stabilization	Total
High Level Waste	(L) * m3	* m3	0.00 m3
	(S) * m3	* m3	0.00 m3
Transuranic Waste	(L) 0.00 m3	0.00 m3	0.00 m3
	(S) 83.83 m3	2.08 m3	85.91 m3
Mixed Transuranic	(L) * m3	* m3	0.00 m3
	(S) 6.45 m3	1.87 m3	8.32 m3
Low Level Waste	(L) 2.72 m3	14.37 m3	17.09 m3
	(S) 302.69 m3	879.54 m3	1182.23 m3
Mixed-LLW	(L) 1.09 m3	7.86 m3	8.95 m3
	(S) 4.68 m3	26.96 m3	31.64 m3
RCRA Regulated	37.96 mt	10.05 mt	48.01 mt
State Regulated	67.64 mt	2759.63 mt	2827.27 mt
TSCA Regulated	0.00 mt	271.89 mt	271.89 mt
Mixed TSCA	0.00 mt	98.92 mt	98.92 mt

CSO Specific Information

CSO: EE Waste Generation.

Waste Type	Routine	Cleanup Stabilization	Total
High Level Waste	(L) * m3	* m3	0.00 m3
	(S) * m3	* m3	0.00 m3
Transuranic Waste	(L) 0.00 m3	0.00 m3	0.00 m3
	(S) 0.00 m3	0.00 m3	0.00 m3
Mixed Transuranic	(L) * m3	* m3	0.00 m3
	(S) * m3	* m3	0.00 m3
Low Level Waste	(L) 0.00 m3	0.00 m3	0.00 m3
	(S) 0.00 m3	0.00 m3	0.00 m3
Mixed-LLW	(L) 0.00 m3	0.00 m3	0.00 m3
	(S) 0.00 m3	0.00 m3	0.00 m3
RCRA Regulated	0.15 mt	0.10 mt	0.25 mt
State Regulated	0.04 mt	0.00 mt	0.04 mt
TSCA Regulated	0.00 mt	0.00 mt	0.00 mt
Mixed TSCA	0.00 mt	0.00 mt	0.00 mt

CSO Specific Information

CSO: EM Waste Generation.

Waste Type	Routine	Cleanup Stabilization	Total
High Level Waste	(L) * m3	* m3	0.00 m3
	(S) * m3	* m3	0.00 m3
Transuranic Waste	(L) 0.00 m3	0.00 m3	0.00 m3
	(S) 3.56 m3	0.21 m3	3.77 m3
Mixed Transuranic	(L) 0.00 m3	0.00 m3	0.00 m3
	(S) 0.00 m3	4.16 m3	4.16 m3
Low Level Waste	(L) 11.17 m3	32.44 m3	43.61 m3
	(S) 200.28 m3	1387.44 m3	1587.72 m3
Mixed-LLW	(L) 0.03 m3	7.86 m3	7.89 m3
	(S) 0.00 m3	7.20 m3	7.20 m3
RCRA Regulated	0.16 mt	171.51 mt	171.67 mt
State Regulated	13.78 mt	25.56 mt	39.34 mt
TSCA Regulated	* mt	18.22 mt	18.22 mt
Mixed TSCA	* mt	0.05 mt	0.05 mt

CSO Specific Information

CSO: ER Waste Generation.

Waste Type	Routine	Cleanup Stabilization	Total
High Level Waste	(L)	* m3	* m3
	(S)	* m3	* m3
Transuranic Waste	(L)	* m3	* m3
	(S)	* m3	* m3
Mixed Transuranic	(L)	* m3	* m3
	(S)	* m3	* m3
Low Level Waste	(L)	* m3	* m3
	(S)	3.21 m3	* m3
Mixed-LLW	(L)	* m3	* m3
	(S)	* m3	* m3
RCRA Regulated		0.12 mt	0.01 mt
State Regulated		1.97 mt	0.23 mt
TSCA Regulated		* mt	* mt
Mixed TSCA		* mt	* mt

CSO Specific Information

CSO: FE Waste Generation.

Waste Type	Routine	Cleanup Stabilization	Total
High Level Waste	(L)	* m3	* m3
	(S)	* m3	* m3
Transuranic Waste	(L)	* m3	* m3
	(S)	* m3	* m3
Mixed Transuranic	(L)	* m3	* m3
	(S)	* m3	* m3
Low Level Waste	(L)	* m3	* m3
	(S)	* m3	* m3
Mixed-LLW	(L)	* m3	* m3
	(S)	* m3	* m3
RCRA Regulated		* mt	* mt
State Regulated		* mt	* mt
TSCA Regulated		* mt	* mt
Mixed TSCA		* mt	* mt

CSO Specific Information

CSO: NE Waste Generation.

Waste Type	Routine	Cleanup Stabilization	Total
High Level Waste	(L)	* m3	* m3 0.00 m3
	(S)	* m3	* m3 0.00 m3
Transuranic Waste	(L)	* m3	* m3 0.00 m3
	(S)	* m3	* m3 0.00 m3
Mixed Transuranic	(L)	* m3	* m3 0.00 m3
	(S)	* m3	* m3 0.00 m3
Low Level Waste	(L)	* m3	* m3 0.00 m3
	(S)	11.43 m3	* m3 11.43 m3
Mixed-LLW	(L)	* m3	* m3 0.00 m3
	(S)	* m3	* m3 0.00 m3
RCRA Regulated		0.26 mt	* mt 0.26 mt
State Regulated		* mt	* mt 0.00 mt
TSCA Regulated		* mt	* mt 0.00 mt
Mixed TSCA		* mt	* mt 0.00 mt

CSO Specific Information**CSO: RW Waste Generation.**

Waste Type	Routine	Cleanup Stabilization	Total
High Level Waste	(L)	* m3	* m3 0.00 m3
	(S)	* m3	* m3 0.00 m3
Transuranic Waste	(L)	* m3	* m3 0.00 m3
	(S)	* m3	* m3 0.00 m3
Mixed Transuranic	(L)	* m3	* m3 0.00 m3
	(S)	* m3	* m3 0.00 m3
Low Level Waste	(L)	* m3	* m3 0.00 m3
	(S)	* m3	* m3 0.00 m3
Mixed-LLW	(L)	* m3	* m3 0.00 m3
	(S)	* m3	* m3 0.00 m3
RCRA Regulated		* mt	* mt 0.00 mt
State Regulated		* mt	* mt 0.00 mt
TSCA Regulated		* mt	* mt 0.00 mt
Mixed TSCA		* mt	* mt 0.00 mt

Explanation for changes in reported waste generation amounts for 1996 vs. 1997

Waste type: Routine - Transuranic Waste

CSO: EM

Reported in 1996: 1.90 m³

Reported in 1997: 3.56 m³

Explanation for the significant waste generation change:

This increase can be attributed to an increase in work by Chemical Science and Technology Division with processes which produce TRU waste.

Waste type: Cleanup/Stabilization - Transuranic Waste

CSO: DP

Reported in 1996: 12.59 m³

Reported in 1997: 2.08 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Transuranic Waste

CSO: EM

Reported in 1996: 4.16 m³

Reported in 1997: 0.21 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Routine - Mixed Transuranic Waste

CSO: DP

Reported in 1996: 4.37 m³

Reported in 1997: 6.45 m³

Explanation for the significant waste generation change:

Routine MTRU generation increase in FY97 is due to increased waste generating processes at the Laboratory.

Waste type: Cleanup/Stabilization - Mixed Transuranic Waste

CSO: DP

Reported in 1996: 23.20 m³

Reported in 1997: 1.87 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Mixed Transuranic Waste

CSO: EM

Reported in 1996: 17.43 m³

Reported in 1997: 4.16 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Routine - Low-Level Waste

CSO: EM

Reported in 1996: 155.02 m³

Reported in 1997: 211.45 m³

Explanation for the significant waste generation change:

This can be attributed to an increase in routine work associated with clean out type activities at the Rad Liquid Waste Facility and Solid Waste Operations.

Waste type: Routine - Low-Level Waste

CSO: ER

Reported in 1996: 10.03 m³

Reported in 1997: 3.21 m³

Explanation for the significant waste generation change:

ER Routine LLW generation constitutes less than 1% of the total Routine LLW generation. Therefore, for overall generation, this is not a significant fluctuation.

Waste type: Cleanup/Stabilization - Low-Level Waste

CSO: DP

Reported in 1996: 743.09 m³

Reported in 1997: 893.91 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Low-Level Waste

CSO: EM

Reported in 1996: 3399.47 m³

Reported in 1997: 1419.88 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Low-Level Waste

CSO: ER

Reported in 1996: 0.02 m³

Reported in 1997: 0.00 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Low-Level Waste

CSO: NE

Reported in 1996: 15.44 m³

Reported in 1997: 0.00 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Routine - Mixed Low-Level Waste

CSO: EM

Reported in 1996: 0.88 m³

Reported in 1997: 0.03 m³

Explanation for the significant waste generation change:

EM Routine MLLW generation constitutes less than 1% of the total Routine MLLW generation. Therefore, for overall generation, this is not a significant fluctuation.

Waste type: Cleanup/Stabilization - Mixed Low-Level Waste

CSO: DP

Reported in 1996: 26.45 m³

Reported in 1997: 34.82 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization projects produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Mixed Low-Level Waste

CSO: EM

Reported in 1996: 19.12 m³

Reported in 1997: 15.06 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Mixed Low-Level Waste

CSO: NE

Reported in 1996: 12.84 m³

Reported in 1997: 0.00 m³

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Routine - RCRA Waste

CSO: DP

Reported in 1996: 25.37 mt

Reported in 1997: 37.96 mt

Explanation for the significant waste generation change:

During CY 1996, Fluorescent Bulbs were tracked as Non Routine Waste. In CY 1997, they were tracked as Routine waste for a total of 12.28 metric tons of Routine RCRA waste.

Waste type: Routine - RCRA Waste

CSO: EE

Reported in 1996: 0.11 mt

Reported in 1997: 0.15 mt

Explanation for the significant waste generation change:

EE Routine RCRA generation constitutes less than 1% of the total Routine RCRA generation. Therefore, for overall generation, this is not a significant fluctuation.

Waste type: Routine - RCRA Waste

CSO: EM

Reported in 1996: 0.61 mt

Reported in 1997: 0.16 mt

Explanation for the significant waste generation change:

EM Routine RCRA generation constitutes less than 1% of the total Routine RCRA generation. Therefore, for overall generation, this is not a significant fluctuation.

Waste type: Routine - RCRA Waste

CSO: NE

Reported in 1996: 0.40 mt

Reported in 1997: 0.26 mt

Explanation for the significant waste generation change:

NE Routine RCRA generation contributes less than 1% to total Laboratory Routine RCRA generation. Therefore, for overall generation, this is not a significant fluctuation.

Waste type: Cleanup/Stabilization - RCRA Waste

CSO: DP

Reported in 1996: 18.95 mt

Reported in 1997: 10.05 mt

Explanation for the significant waste generation change:

During CY 1996, Fluorescent Bulbs were tracked as Non Routine Waste for a total of 13.16 metric tons. Also, various Cleanup/Stabilization projects produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - RCRA Waste

CSO: EE

Reported in 1996: 2.26 mt

Reported in 1997: 0.10 mt

Explanation for the significant waste generation change:

EE Cleanup/Stabilization RCRA generation constitutes less than 1% of the total Cleanup/Stabilization RCRA generation. Therefore, for overall generation, this is not a significant fluctuation.

Waste type: Cleanup/Stabilization - RCRA Waste

CSO: EM

Reported in 1996: 872.22 mt

Reported in 1997: 171.51 mt

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - RCRA Waste

CSO: ER

Reported in 1996: 0.00 mt

Reported in 1997: 0.01 mt

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major similar projects ramp up and finish.

Waste type: Routine - State Regulated Waste

CSO: DP

Reported in 1996: 52.17 mt

Reported in 1997: 67.64 mt

Explanation for the significant waste generation change:

During December 1997, the laboratory disposed of approximately 11.28 metric tons of graphite powder as Routine State Waste. The laboratory is currently working with regulators to determine if the graphite is State waste.

Waste type: Routine - State Regulated Waste

CSO: EE

Reported in 1996: 0.11 mt

Reported in 1997: 0.04 mt

Explanation for the significant waste generation change:

EE Routine State generation constitutes less than 1% of the total Routine State generation. Therefore, for overall generation, this is not a significant fluctuation.

Waste type: Routine - State Regulated Waste

CSO: EM

Reported in 1996: 8.45 mt

Reported in 1997: 13.78 mt

Explanation for the significant waste generation change:

Data is being reviewed to determine the cause of this increase. Data should be available by 4/30/98.

Waste type: Routine - State Regulated Waste

CSO: ER

Reported in 1996: 3.35 mt

Reported in 1997: 1.97 mt

Explanation for the significant waste generation change:

Routine State generation of waste by ER represents less than 3% of the total generated by the Laboratory. Therefore, for overall generation, this is not a significant fluctuation.

Waste type: Cleanup/Stabilization - State Regulated Waste**CSO: DP****Reported in 1996: 24.80 mt****Reported in 1997: 2759.63 mt****Explanation for the significant waste generation change:**

2,660.36 metric tons of water was removed from a Lagoon at the Fenton Hill Site. This water was reused as dust suppressant at a Hazardous Waste Landfill in Arizona. An additional 14.51 metric tons was generated from miscellaneous equipment used in beryllium processing which was contaminated with Beryllium dust. Also, there were 32.66 metric tons generated from processed tuff which was contaminated with hydraulic oil from a spill.

Waste type: Cleanup/Stabilization - State Regulated Waste**CSO: EM****Reported in 1996: 2588.23 mt****Reported in 1997: 25.56 mt****Explanation for the significant waste generation change:**

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as projects ramp up and finish.

Waste type: Cleanup/Stabilization - State Regulated Waste**CSO: ER****Reported in 1996: 0.00 mt****Reported in 1997: 0.23 mt****Explanation for the significant waste generation change:**

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as projects ramp up and finish.

Waste type: Cleanup/Stabilization - TSCA Waste**CSO: DP****Reported in 1996: 103.09 mt****Reported in 1997: 271.89 mt****Explanation for the significant waste generation change:**

In CY 1997, the laboratory disposed of 137 metric tons of sanitary sewage sludge contaminated with Polychlorinated biphenyls.

Waste type: Cleanup/Stabilization - TSCA Waste

CSO: EM

Reported in 1996: 3390.09 mt

Reported in 1997: 18.22 mt

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Mixed TSCA Waste

CSO: DP

Reported in 1996: 21.83 mt

Reported in 1997: 98.92 mt

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Mixed TSCA Waste

CSO: EM

Reported in 1996: 219.54 mt

Reported in 1997: 0.05 mt

Explanation for the significant waste generation change:

Various Cleanup/Stabilization activities produce significant year-to-year fluctuations as major projects ramp up and finish.

Waste type: Cleanup/Stabilization - Sanitary Waste

Reported in 1996: 4073.48 mt

Reported in 1997: 0.00 mt

Explanation for the significant waste generation change:

During Calendar Year 1997, all sanitary cleanup/stabilization waste was recycled, therefore, this material is not counted as waste generation.

Appendix (optional)